Safety Management System Modules

Element 19 – General Engineering & Operations Systems

What and Why

The Safety Management System contains the technical engineering detail which describes the standards that railway infrastructure and rolling stock must meet to be considered safe for the railway operations.

It should also describe the acceptable tolerances before maintenance is required and when the item will be removed from service.

This module links closely with Element 20 – Process Control and Element 21 – Asset Management. For the purposes of this module, the content is focused on the requirements for Element 19.

How

Standards, procedures, test/checklists and engineering drawings are available for each asset and are included in the SMS.

Documents and standards used are appropriate to the asset(s) and the asset(s) operation and frequency of use.

Rail operators should ensure that standards and procedures that have been taken from other sources (or developed internally) have been reviewed and assessed by the responsible competent person(s) to be appropriate for the specific assets in use.

These are typical areas that should have appropriate technical/engineering standards:

- Rail Infrastructure
    - Track geometry, rails, sleepers, fixings, joints, ballast, formation, drainage;
    - Bridges, culverts, retaining walls, tunnels, station platforms, signals, level crossing equipment.
- Boilers
    - Original design drawings and specifications, current boiler operating manuals and management/maintenance plans.
- Rollingstock
    - Brakes, wheels, axles, suspension, bogie components, chassis, drawgear, couplings, doors, windows, securing internal items, safety systems and lighting.
- Operating Systems
    - Network (safeworking rules) which govern the movement of trains;
    - Shunting procedures, train examination and brake test procedures;
    - Operating procedures which describe the correct way of operating each class of rolling stock and signaling systems.

The following information should be documented for each asset to demonstrate compliance to the law:

- Asset description and location;

- Technical performance specifications and drawings. That is, the standard to which the asset must meet to be considered safe and fit for purpose for the railway operations;
- An appropriate inspection and maintenance schedule with appropriate maintenance procedures, tests and checklists;
- How the standards and inspection schedules have been determined to be appropriate for their particular scope of operations.

Who

Prior to adopting external standards, they should be reviewed for relevance and appropriateness by a qualified person. For example – Adoption of a main line state owned rail infrastructure manager, operating high speed trains would not be appropriate for a static display that operates passenger trains once a year at its annual fundraiser.

Only those with engineering skills/experience should amend /modify standards and supported by risk assessment.

The Board/ Executive Committee should review any risk assessments and proposals to change standards as part of their governance obligations.

When

Standards should be considered (and reviewed as necessary) when new rail assets are obtained.

Where material change occurs and/or risk assessments are conducted, relevant standards should be reviewed to establish that they are still appropriate and applicable.

Where standards are to be amended/modified, risk assessment with appropriately qualified persons should be carried out.

Managers and Supervisors should make sure that policies and procedures reflect the standards in place, and that they are met as part of regular operations.

Rail Safety workers should comply with safety procedures that require work to a specific standard, including contractors and volunteers.

List of relevant documents (internal)

Element 7 - Procurement and contract management

Element 11 – Corrective Action

Element 12 – Management of Change

Element 16 – Risk Management

Element 20 – Process Control

Element 21 – Asset Management

Element 24 – RSW Competence

Links (external)

ONRSR Website – Road Rail Vehicles

ONRSR Website – Engineering Safety Management

ONRSR Website – Rail Locomotive Boilers Guidance

ONRSR Website – Asset Management

Appendices

None